


BEST buildup evaluation shut-in tool

Enables efficient, high-quality downhole data acquisition required for well testing and reservoir surveillance

 **Temperature:**
350 degF [176 degC]

Applications

- Deliverability testing in exploration and appraisal wells
- Multizone testing in injection and production wells
- Skin evaluation and depletion assessment of producing wells
- Land and offshore environments

Features

- Instant shut-in valve action
- Single-run set and retrieve capability (set on an existing landing nipple or with retrievable packer)
- Controllability via surface programmable timer without electrical or hydraulic connection to surface
- Multicycle closing and opening operations
- Conveyance-agnostic deployment
- Compatibility with sour gas service (NACE-compliant materials)

Benefits

- Acquires high-quality downhole reservoir data
- Reduces buildup times, cutting costs and carbon emissions during well testing and reservoir surveillance operations
- Increases coverage and frequency of well testing, enabled by simplified and cost-efficient operations

How it improves well testing and reservoir surveillance

The BEST* buildup evaluation shut-in tool is suitable anywhere there is a need for efficient and cost-effective acquisition of high-quality formation pressure downhole data with minimal impact from wellbore storage effects.

In new wells, the tool provides an alternative for well testing where the cost and logistics associated with conventional testing methods

are prohibitive or when rigless operations are required. The tool is used to determine key formation parameters such as reservoir boundaries, fluid type, and deliverability.

In production wells, the BEST tool is used for periodic testing to determine reservoir depletion and assess the effectiveness of production improvement interventions such as stimulation and reperforation.

Reduced well testing costs

Installed inside the borehole close to the formation, the BEST tool provides a downhole shut-in that reduces wellbore storage, resulting in faster buildups (especially in gas wells), shorter operational time, and minimized production downtime—saving cost and bringing value to operators.

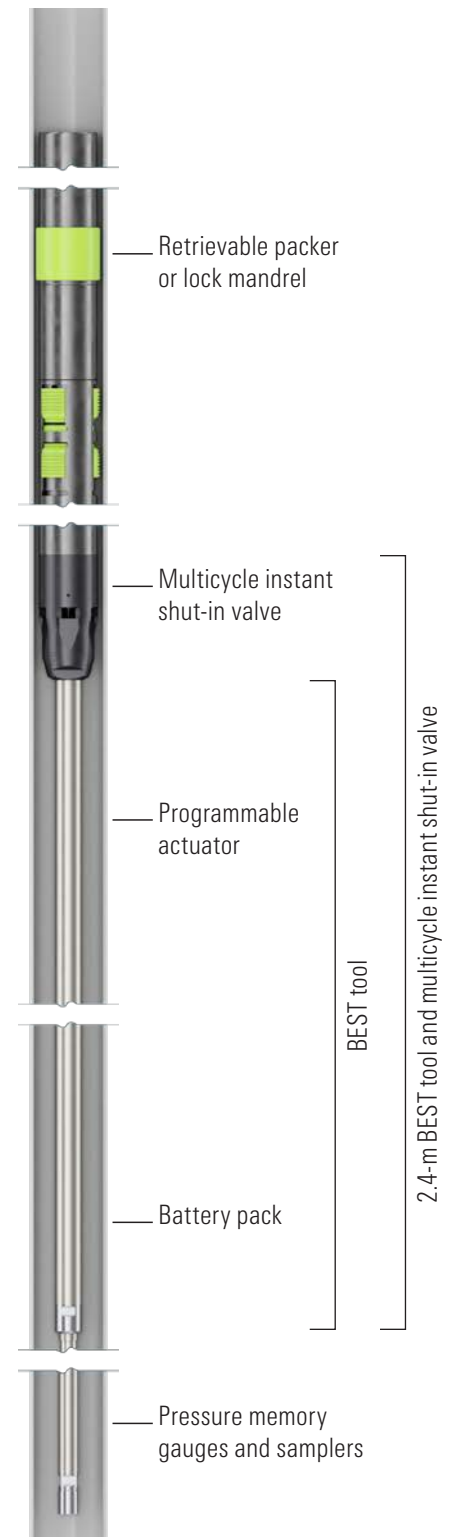
Accurate near-wellbore characterization

The early stages of the pressure buildup are dominated by the compressibility of the fluid in the borehole. This is known as a wellbore storage effect and can mask pressure responses characteristic of the formation. The BEST tool minimizes wellbore storage effects by shutting the well downhole. It further enhances the interpretability of the early buildup pressure data through its instantaneous valve shut-in action. This enables a more accurate characterization of the near-wellbore region.

How it works

The BEST tool is conveyed in the well using slickline (or any other conveyance) and set downhole using a standard lock mandrel or retrievable packer. This provides an anchor and seal against the production string.

The battery-powered, surface-programmable downhole actuator operates the multicycle instant shut-in valve. This generates a preprogrammed sequence of flowing and shut-in events. A memory pressure gauge, typically attached below the tool, records the borehole pressure during each step of the preprogrammed sequence. The acquired pressure data is then used for analysis and



BEST buildup evaluation shut-in tool.

BEST

interpretation. At the end of the test sequence the valve is opened to equalize the pressure across the tool and prepare it for retrieval with slickline.

More sustainable well testing and surveillance operations

The BEST tool decreases the carbon intensity of well testing and surveillance operations by efficiently delivering the element of decision for production enhancement and reservoir characterization assessments through faster buildups and high-quality downhole data.

Answer products

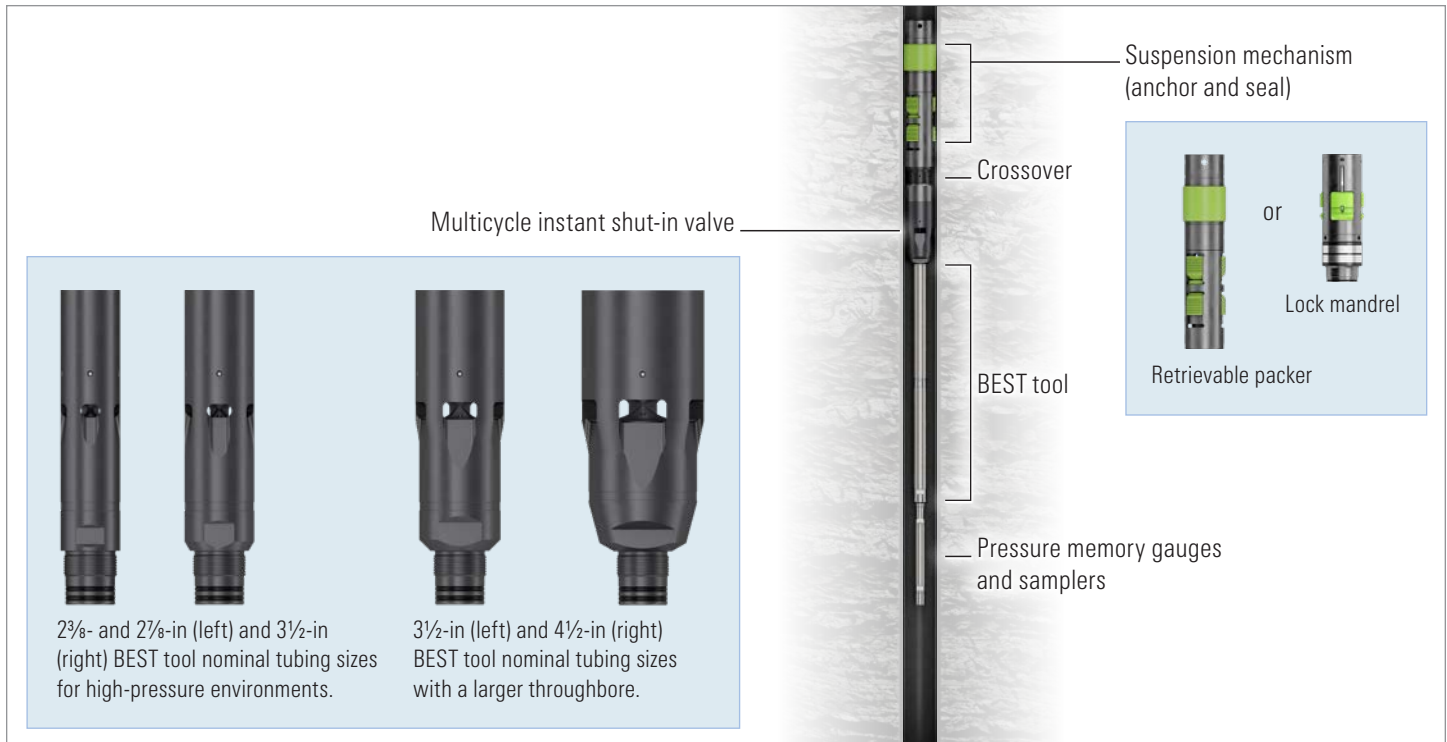
BEST tool diagnostics report and detailed reservoir interpretation are available on demand.

General Specifications	
Length, [†] in [m]	94.5 [2.4]
Weight (approximate), lbm [kg]	42 [19]
Temperature rating, degF [degC]	350 [176]
Tool pressure rating, psi [MPa]	15,000 [103]
Shut-in time	Instantaneous
Sour service	As per H ₂ S NACE MR0175 CO ₂ recommendation
Bottom connection	1 ⁵ / ₁₆ -in sucker rod
Number of programmable cycles	Up to 10 (open and close) at minimum 10-min interval
Standard autonomy, d	40

All specifications are subject to change without notice.
[†] Includes BEST tool and multicycle instant shut-in valve

Individual Valve Specifications				
	2 ³ / ₈ -in and 2 ⁷ / ₈ -in Nominal Tubing	3 ¹ / ₂ -in Nominal Tubing	3 ¹ / ₂ -in High-Flow Nominal Tubing	4 ¹ / ₂ -in High-Flow Nominal Tubing
Valve OD, in [mm]	1.687 [42.8]	2 [50.8]	2.562 [65.1]	3.562 [90.5]
Valve differential pressure rating, psi [MPa]	10,000 [69]	10,000 [69]	5,000 [35]	5,000 [35]
Equivalent flow area, in ² [mm ²]	0.89 [572]	1.23 [792]	2.41 [1,552]	4.43 [2,858]
Equalization flow area, in ² [mm ²]	0.015 [9.42]	0.015 [9.42]	0.015 [9.42]	0.029 [18.84]
Equivalent flow diameter, [‡] in [mm]	1 [25]	1 ¹ / ₄ [31.8]	1 ¹ / ₄ [44.5]	2 ³ / ₈ [60.3]

All specifications are subject to change without notice.
[‡] Rounded down to the nearest 1/64 in



The BEST tool and pressure gauge are deployed in a single run using a retrievable packer or lock mandrel to provide an anchor and seal against the tubing. A suite of crossover, equalization, and running accessories is available for use with packers from Peak Well Systems, a Schlumberger company.

slb.com/BEST